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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/364,241	07/29/1999	ROBERT P. PARKER	02103/349001	9138

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EXAMINER	
TRAN, KHANH C	

ART UNIT	PAPER NUMBER
2631	

DATE MAILED: 01/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/364,241	PARKER, ROBERT P.	
	Examiner	Art Unit	
	Khanh Tran	2631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 November 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *8* is/are allowed.

6)☒ Claim(s) *1-7 and 9-14* is/are rejected.

7)☒ Claim(s) *15* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 May 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The Amendment filed on 11/08/2005 has been entered. Claims 1-15 are pending in this Office action.

Response to Arguments

2. Applicant's arguments with respect to claims 1-15 have been considered but are moot in view of the new ground(s) of rejection.

3. The objection of claims 1-4, 8-9 and 11 has been withdrawn after ***Applicant clarifies the claimed language as stated on page 7 of the Amendment filed on 11/08/2005***.

Claim Objections

4. Claim 1 is objected to because of the following informalities: in line 4, "the desired received signal" should be changed to -- a desired received signal --; in line 6 "the received frequency" should be changed to -- the desired received frequency --; in line 7, "the received frequency" should be changed to -- the desired received frequency --. Appropriate correction is required.

5. Claim 2 is objected to because of the following informalities: in line 4, "the desired received signal" should be changed to -- a desired received signal --; in line 6 "the received frequency" should be changed to -- the desired received frequency --; in line 7, "the received frequency" should be changed to -- the desired received frequency --. Appropriate correction is required.

6. Claim 3 is objected to because of the following informalities: in line 4, "the desired received signal" should be changed to -- a desired received signal --; in line 6 "the received frequency" should be changed to -- the desired received frequency --; in line 7, "the received frequency" should be changed to -- the desired received frequency --. Appropriate correction is required.

7. Claim 8 is objected to because of the following informalities: in line 4, "the desired received signal" should be changed to -- a desired received signal --; in line 6 "the received frequency" should be changed to -- the desired received frequency --; in line 7, "the received frequency" should be changed to -- the desired received frequency --. Appropriate correction is required.

8. Claim 9 is objected to because of the following informalities: in line 4, "the desired received signal" should be changed to -- a desired received signal --; in line 6 "the received frequency" should be changed to -- the desired received frequency --; in

line 7, "the received frequency" should be changed to -- the desired received frequency --. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-2, 9-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Alberkrack U.S. Patent 3,883,807.

Regarding claim 1, Alberkrack teaches a phase locked-loop tuning system for a television receiver, the tuning system for tuning VHF and UHF channels. In column 2 lines 50-65, FIG. 1 is a block diagram of a channel selection and tuning control system used to control the local oscillator in the VHF and UHF tuner sections 10 and 11, respectively, of a television receiver. The predetermined frequency range according to Alberkrack invention is either VHF or UHF. Figure 1 does not show a signal path for receiving an electromagnetic signal, however, the television receiver inherently receives an electromagnetic signal either in VHF or UHF ranges.

In column 3 lines 40-50, a keyboard switch section 13 is operated to directly *select the desired channel number*. In column 2 lines 5-35, the output from divide channel number is compared in a phase/frequency comparator 40 with a reference oscillator signal to produce *a control voltage used in a phase-locked loop to control the*

frequency of operation of the local oscillator 10 or 11, e.g. VHF tuner or UHF tuner. In column 3 lines 20-30, the *local oscillator frequencies for the tuners range from a low 101 MHz for VHF channel 2 to a high of 931 MHz for UHF channel 83*. In view of that, the local oscillator frequency is always within the range of either VHF or UHF.

Regarding claim 2, claim 2 is rejected on the same ground as for claim 1 because of similar scope. Furthermore, the keyboard switch section 13 is operated to directly select the desired channel number, which is representative of the claimed desired received signal frequency.

Regarding claim 9, claim 9 is rejected on the same ground as for claim 1 because of similar scope. Furthermore, the claimed range is within UHF frequency range.

Regarding claim 10, claim 10 is rejected on the same ground as for claim 1 because of similar scope. Furthermore, the 45.75 MHz picture If frequency corresponds to the claimed predetermined intermediate frequency. The keyboard switch selection 13 and the keyboard memory and lock 14 correspond to the claimed source of signal; see figure 1. The phase frequency comparator 40 and gated offset oscillators 20, 21 and 22, couple to the VHF tuner VCO 10 and UHF Tuner VCO 11, constitutes the claimed frequency controller.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alberkrack U.S. Patent 3,883,807.

Regarding claim 3, claim 3 is rejected on the same ground as for claim 1 because of similar scope.

Alberkrack does not expressly teach the claimed step of "further comprising representing the threshold frequency as an index value of a set of index values, the set of index values uniquely corresponding to a set of channels in the predetermined range of reception frequencies".

In column 4 lines 50-67, see figure 1, Alberkrack teaches that the frequencies selected for the gated offset oscillators 20, 21 and 22 are uniquely selected; so that when the output signals from the oscillators 20, 21 and the amplifier 25 are mixed with the standard local oscillator frequency for a television receiver operating with a 45.75 MHz picture If frequency, the output of the programmable divider 38 for a properly tuned VHF channel is always 120 kilohertz. A phase-frequency comparator circuit 40 is supplied with the output of the programmable divider 38 and with a 120 kilohertz reference signal from a reference oscillator 42 and produces an error or control voltage

in a conventional manner, normally associated with phase-locked loop systems. Because the 120-kilohertz reference signal is representative for a properly tuned VHF channel, it would have been obvious for one of ordinary skill in the art at the time the invention was made that the 120-kilohertz reference signal, corresponding to the claimed threshold frequency, can be modified to represent an index value of a set of index values representing a set of VHS channels.

Regarding claim 4, Alberkrack does not expressly teach tuning the oscillator comprises applying one of at least two frequency offsets as set forth in the application claim.

However, as recited in claim 3, because Alberkrack teaches that the frequencies selected for the gated offset oscillators 20, 21 and 22 are uniquely selected; so that when the output signals from the oscillators 20, 21 and the amplifier 25 are mixed with the standard local oscillator frequency for a television receiver operating with a 45.75 MHz picture If frequency, one of ordinary skill in the art at the time the invention was made would have recognized that the act of mixing one of the gated offset oscillators 20, 21 and 22 with the standard local oscillator frequency for a television receiver operating with a 45.75 MHz picture If frequency would be equivalent to the step of tuning the oscillator comprises applying one of at least two frequency offsets as set forth in the application claim.

Regarding claim 5, due to complexity of processing different magnitudes for the output signals of the gated offset oscillators 20, 21 and 22, one of ordinary skill in the art at the time the invention was made would have been motivated to select equal magnitudes for the output signals of the gated offset oscillators 20, 21 and 22.

Regarding claim 6, the VHS frequency ranges is from 30 MHz to 328.6 MHz, corresponding to the claimed F_{HIGH} and F_{LOW}. The gated offsets are within the VHS frequency range.

Regarding claim 7, in column 3 lines 60-67, Alberkrack teaches the oscillator 20 is an 89 MHz oscillator, which is enabled whenever any one of VHF channels 2, 3 and 4 is selected. Because 89 MHz gated offset is used for the selection of any one of VHF channels 2, 3 and 4, one of ordinary skill in the art at the time the invention was made would have recognized that 89 MHz gated offset would be representative for first, second and third frequency offsets. The 89 MHz gated offset is equal to an intermediate frequency, e.g. 45 MHz picture IF frequency.

11. Claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alberkrack U.S. Patent 3,883,807 in view of Skerlos U.S. Patent 4,163,259.

Regarding claim 11, claim 11 is rejected on the same ground as for claim 10 because of similar scope.

Alberkrack does not show a signal path and a mixer coupled to the local oscillator and the signal path as set forth in the application claim.

Skerlos discloses in figure 1 a television tuner including a signal path, an UHF and VHF tuner coupled to the signal path. The UHF and VHF tuner inherently comprises a mixer coupled the local oscillator and the signal path. Because Alberkrack teaches a UHF and VHF tuner for a television receive, it would have been obvious for one of ordinary skill in the art at the time the invention was made that Alberkrack teachings can be modified to include a signal path and mixer as taught in Skerlos invention.

Regarding claim 12, Alberkrack teaches a phase-locked loop tuning system as shown in figure 1.

Regarding claim 13, claim 13 is rejected on the same ground as for claim 11 because of similar scope. Furthermore, the claimed range is within UHF frequency range.

12. Claims 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alberkrack U.S. Patent 3,883,807 and Skerlos U.S. Patent 4,163,259 as applied to claim 11 and further in view of Kuo et al. U.S. Patent 5,307,515.

Regarding claim 14, claim 14 is rejected on the same ground as for claim 11 because of similar scope. Alberkrack and Skerlos do not teach the frequency controller further comprises a microprocessor as claimed.

Kuo et al. invention is directed to a radio receiver with less susceptibility to adjacent channel interference. In figure 1, column 2 line 64 via column 3 line 10, a conventional receiver includes an antenna 10 connected to a radio frequency (RF) amplifier 11. An RF signal is output from RF amplifier 11 and mixed in a mixer 12 with a mixing signal f_O from a phase-locked loop local oscillator 13. The frequency of mixing signal f_O is controlled by *a microcontroller 14, in response to an external tuning input*, and frequency-shifts a desired RF signal from RF amplifier 11 to the intermediate frequency (IF) of the receiver. Alberkrack, Skerlos, and Kuo et al. invention are in the same field of endeavor. Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention that Alberkrack receiver can be modified to implement a microcontroller for frequency control as taught by Kuo et al.. Motivation is that the microcontroller provides speed and more accuracy.

Allowable Subject Matter

13. Claim 8 is allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 8, claim 8 is allowable over prior art of record because the cited reference cannot teach or suggest the claimed limitations "*comparing directly an input frequency of the desired received signal with an approximately equaling center frequency of a predetermined frequency range*" and "*tuning the oscillator to a frequency within the range of reception frequencies based on the threshold frequency*".

14. Claim 15 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

15Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khanh Tran whose telephone number is 571-272-3007. The examiner can normally be reached on Monday - Friday from 08:00 AM - 05:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on 571-272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KCT

Khanh cong Tran 01/20/2006

Examiner KHANH TRAN